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EXAMINER	
TRAN, TUNG Q	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Office Action Summary	Application No.	Applicant(s)	
	10/773,226	SEGEL, JONATHAN DEAN	
	Examiner	Art Unit	
	TUNG Q. TRAN	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19-30,33,34,36-41 and 43-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17, 19-30, 33-34, 36-41, and 43-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 17, 19, 38-39, and 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 17, limitation "adapting the bandwidth of said wireline link to the bandwidth of said wireless link by discarding low priority data from said user traffic" is not supported by the specification. Applicant does not disclose this limitation in the specification so that one skilled in the art can make and use the invention.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17, 19-30, 33-34, 36-41, and 43-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the word "may" (a user may) recited in line 10 of the claim renders the claim indefinite because "may" is a indefinite verb.

Regarding claim 13, the word "may" (a user may) recited in line 10 and 15 of the claim renders the claim indefinite because "may" is a indefinite verb.

Regarding claim 14, the word "may" (a user may) recited in line 10 of the claim renders the claim indefinite because "may" is a indefinite verb.

Regarding claim 17, the word "may" (a user may) recited in line 9 of the claim renders the claim indefinite because "may" is a indefinite verb.

Regarding claim 33, the word "may" (a user may) recited in line 9 of the claim renders the claim indefinite because "may" is a indefinite verb.

Regarding claim 37, the word "may" (a user may) recited in line 9 of the claim renders the claim indefinite because "may" is a indefinite verb.

Claim 40 recites the limitation "wherein said step d)" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 46-50, the word "may" (said performance impairment may) recited in line 1 of the claim renders the claim indefinite because "may" is a indefinite verb.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2, 9-12, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Hrastar et al. (US 2001/0043562) and Soltysiak et al. (US 2003/0021234).

Li discloses a system and method for failure recovery of high-speed modems (see the Title) comprising the following features.

Regarding claim 1, a protection system for establishing high availability communications (see the Title), comprising: a wireline link processor (Fig. 11, High-speed Modem 30) for connecting a user site to a network provider site over a broadband access connection (Fig. 11, High-speed Modem 30 connecting to Internet 25); a dial-up modem for connecting said user site and said provider network site over a backup connection (Fig. 11, Dial-up modem 50 connecting to Internet 25) when said broadband access connection is suffering from performance impairment (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3); means for monitoring operation of said wireline link (see "The modem interchange software detects" recited in para. [0033] on page 3) and generating a fault signal upon detection of a said performance impairment

of the broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3); means for switching user traffic received over a user interface from said wireline link to said backup connection according to said fault signal (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30); means for switching back said user traffic from said backup connection to said broadband access connection (para. [0035], [0090], Fig. 14, see steps 380 through 405 for restoring the high-speed connection) once said fault signal has been cleared (para. [0035], [0090], see detecting if the high-speed modem resumes to normal operation); means for switching back said user traffic from said backup connection on said broadband access connection (para. [0035], [0090] Fig. 14, see steps 380 through 405 for restoring the high-speed connection) and determining whether said fault signal has been cleared (para. [0035], [0090], see detecting if the high-speed modem resumes to normal operation).

Regarding claim 2, wherein said fault signal indicates one of a failure, performance degradation and overload of the wireline link (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3).

Regarding claim 9, wherein said means for switching is a data packet switch (Fig. 11, Router 175) for communicatively coupling said user interface to one of dial-up link

processor and said wireline link processor under control of said means for monitoring (Fig. 11, Dial-up Modem 50 and High-speed Modem 30).

Regarding claim 10, wherein said means for switching is one of a router and an OSI layer 3 switch (Fig. 11, Router 175).

Regarding claim 11, wherein said means for switching is an OSI layer 2 Ethernet switch (Fig. 11, Router 175; and see "LAN" recited in para. [0089], page 7).

Li discloses the claimed limitations above. Li does not disclose the following features: regarding claim 1, a wireless link processor for connecting said user site and said provider network site over a backup connection; wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; and means for switching back said user traffic from said backup link on said wireline link at specific intervals; regarding claim 9, wherein coupling said user interface to one of said wireless link processor and said wireline link processor under control of said means for monitoring; regarding claim 12, wherein said means for switching is a physical layer media switch; regarding claim 46, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Dop discloses the cellular alarm backup system (see the Title) comprising the following features:

Regarding claim 1, a wireless protection system comprising a wireless link processor (see cellular backup system recited in the Abstract) for connecting said user site and said provider network site over a backup connection (see cellular system

transmitting call to a central alarm station recited in the Abstract); and means for switching user traffic received over said user interface between said wireline (see telephone land line recited in the Abstract) and said wireless link (see cellular system recited in the Abstract) according to said fault signal (see switching the telephone line over the cellular system upon a inoperativeness of the telephone line recited in the Abstract).

Regarding claim 9, wherein coupling said user interface to one of said wireless link processor and said wireline link processor under control of said means for monitoring (see switching the telephone line over the cellular system upon a inoperativeness of the telephone line recited in the Abstract).

Regarding claim 12, wherein said means for switching is a physical layer media switch (see Fig. 1, Box 12; and see "Box 12" recited in col. 4, line 54 continues to col. 5, line 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li by using the features, as taught by Dop, in order to make the system more reliable by providing different alternative connections, implement the system easier, and keep it work in almost any topology.

Li and Dop disclose the claimed limitations above. They do not disclose the following features: regarding claim 1, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; and means for switching back said user traffic from said backup link on said wireline link at specific intervals; regarding claim 46, said performance impairment may be any impairment

selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Hrastar discloses a method of using routing protocols to reroute packets during a link failure (see the Title) comprising the following features:

Regarding claim 1, means for switching back said user traffic from said backup link on said wireline link at specific intervals (see "predetermined period of time" recited in para. [0024], page 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li and Dop by using the features, as taught by Hrastar, in order to restore the system faster and more reliable.

Li, Dop, and Hrastar disclose the claimed limitations above. They do disclose the following features: regarding claim 1, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; regarding claim 46, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Soltysiak discloses methods and apparatus for burst tolerant excessive bit error rate alarm detection and clearing comprising the following features.

Regarding claim 1, wherein a user may configure threshold levels of link performance parameters (see user configures BER thresholds recited in [0011]) that trigger generation of a fault signal (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 46, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Hrastar by using the features, as taught by Soltysiak, in order to give user more options to control the system.

7. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Hrastar et al. (US 2001/0043562), Soltysiak et al. (US 2003/0021234), and Antoniou et al. (US 6,965,775).

Li, Dop, Hrastar, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 3, further comprising at said user site means for filtering said user traffic on receipt of the fault signal for selecting high-priority traffic to be carried over said backup connection; regarding claim 4, further comprising link filtering means at the network provider site for selecting high-priority traffic to be carried to said user site over said backup connection on receipt of said fault signal; regarding claim 5, further comprising: means for filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic, the high priority traffic to be transmitted over said backup connection; and network link filtering means for filtering said user traffic at the network provider site for selecting high-priority

traffic to be carried to said user site over said backup connection on receipt of said fault signal.

Antoniou discloses service-oriented protection scheme for a radio access network (see the Title) comprising the following features.

Regarding claim 3, further comprising at said user site means for filtering said user traffic on receipt of the fault signal for selecting high-priority traffic to be carried over said backup connection (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7).

Regarding claim 4, further comprising link filtering means at the network provider site for selecting high-priority traffic to be carried to said user site over said backup connection on receipt of said fault signal (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7).

Regarding claim 5, further comprising: means for filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic, the high priority traffic to be transmitted over said backup connection (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7); and network link filtering means for filtering said user traffic at the network provider site for selecting high-priority traffic to be carried to said user site over said backup connection on receipt of said fault signal (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Hrastar, and Soltysiak by using the features,

as taught by Antoniou, in order to provide more functionalities for the system such as quality of service.

8. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Hrastar et al. (US 2001/0043562), Soltysiak et al. (US 2003/0021234), and Simmons (US 6,597,658).

Li, Dop, Hrastar, and Soltysiak disclose the claimed limitations above.

In addition, Li also discloses the following features:

Regarding claim 8, a network provider reconfiguring mechanism for separating (see "router" recited in para. [0034], page 3) traffic from said user traffic routing traffic to said user site over said backup connection (see "routes the data to the appropriate Internet appliance" by the router recited in para. [0034], page 3).

Li, Dop, Hrastar, and Soltysiak do not disclose the following features: regarding claim 6, wherein said fault signal indicates an overload of said wireline link; regarding claim 8, further comprising: network link filtering means for filtering said user traffic at said network provider site on receipt of said fault signal for selecting said overload traffic.

Simmons discloses a method and system of dynamic traffic control in a communication network (see the Title) comprising the following features.

Regarding claim 6, wherein said fault signal indicates an overload of said wireline link (see "overload condition" recited in col. 3, lines 47-50).

Regarding claim 8, further comprising: network link filtering means for filtering said user traffic at said network provider site on receipt of said fault signal for selecting said overload traffic (see routing overload traffic into protection links recited in col. 3, lines 29-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Hrastar, and Soltysiak by using the features, as taught by Simmons, in order to prevent or reduce congestion.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Hrastar et al. (US 2001/0043562), Soltysiak et al. (US 2003/0021234), Simmons (US Patent No. 6,498,844), and Gerszberg et al. (US 6,714,534).

Li, Dop, Hrastar, Soltysiak, and Simmons disclose the claimed limitations above.

In addition, Simmons also discloses the following features:

Regarding claim 7, means for filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic the overload traffic to be carried over said backup connection (see routing overload traffic into protection links recited in col. 3, lines 29-44).

Li, Dop, Hrastar, Soltysiak, and Simmons do not disclose the following features: regarding claim 7, a network provider reconfiguring mechanism for merging said overload traffic back into said user traffic.

Gerszberg discloses a system architecture for bypassing a local exchange carrier (see the Abstract) comprising the following features.

Regarding claim 7, a network provider reconfiguring mechanism for merging traffic back into said user traffic (see "aggregate" recited in col. 14, lines 27-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Hrastar, Soltysiak, and Simmons by using the features, as taught by Gerzberg, in order to restore the traffic and reassembly packets or frames.

10. Claims 13, 15, 33, 36-37, and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234).

Li discloses a system and method for failure recovery of high-speed modems (see the Title) comprising the following features.

Regarding claim 13, a method for protecting a wireline access link (see the Title), comprising the steps of: transmitting user traffic between a user site and a network provider site in a broadband access connection carried over said wireline link (see Internet access on high-speed modem recited in the Abstract); transmitting user traffic between said user site and said network provider site over a backup connection (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30) when said broadband access connection is suffering from performance impairment (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3); monitoring integrity of said wireline link (see "The modem interchange software detects" recited in para. [0033] on page 3)

and generating a fault signal upon detection of said performance impairment of said broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3); and switching said user traffic from said broadband access connection to a backup connection according to said fault signal (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30); wherein said fault signal is generated in response to a degraded performance detected on said wireline link (see "communicates the failure to the modem backup software module" recited in para. [0033] on page 3) and degraded performance is failure of the broadband access (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3).

Regarding claim 15, wherein said fault signal indicates a failure of the wireline link (see "detects the high-speed modem failure" recited in para. [0033] on page 3).

Regarding claim 33, a method for protecting a wireline access link (see the Title), comprising the steps of: transmitting user traffic between a user site and a network provider site in a broadband access connection carried over said wireline link (see Internet access on high-speed modem recited in the Abstract); transmitting user traffic between said user site and said network provider site over a backup connection (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page

30) when said broadband access connection is suffering from performance impairment (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3); monitoring integrity of said wireline link (see "The modem interchange software detects" recited in para. [0033] on page 3) and generating a fault signal upon detection of said performance impairment of said broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3); and switching said user traffic from said broadband access connection to a backup connection according to said fault signal (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30).

Regarding claim 37, a method for protecting a wireline access link (see the Title), comprising the steps of: transmitting user traffic between a user site and a network provider site in a broadband access connection carried over said wireline link (see Internet access on high-speed modem recited in the Abstract); transmitting user traffic between said user site and said network provider site over a backup connection (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30) when said broadband access connection is suffering from performance impairment (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3); monitoring integrity of said wireline

link (see "The modem interchange software detects" recited in para. [0033] on page 3) and generating a fault signal upon detection of said performance impairment of said broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3); and switching said user traffic from said broadband access connection to a backup connection according to said fault signal (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30); normally placing no load on said backup link (see maintaining high-speed connection available by switching back to high-speed connection whenever high-speed modem resumes recited in Fig. 10; para. [0035], [0090], Fig. 14, see steps 380 through 405 for restoring the high-speed connection).

Regarding claim 36, further comprising maintaining said wireline link always available for traffic (see once high-speed modem resumes, high-speed connection is reestablished recited in Fig. 10).

Li discloses the claimed limitations above. Li does not disclose the following features: regarding claim 13, a wireless link; wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; degraded performance may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter; regarding claim 33, a wireless link; wherein a user may configure threshold levels of link performance parameters that trigger generation of said

fault signal; regarding claim 33, a wireless link; wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; regarding claim 49, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter; regarding claim 50, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Dop discloses the cellular alarm backup system (see the Title) comprising the following features:

Regarding claim 13, a wireless protection system comprising a wireless link processor (see cellular backup system recited in the Abstract) for connecting said user site and said provider network site over a backup connection (see cellular system transmitting call to a central alarm station recited in the Abstract); and transmitting user traffic between said user site and said network provider site over a backup connection carried over a wireless link (see cellular system recited in the Abstract) when the primary access connection is suffering from performance impairment (see switching the telephone line over the cellular system upon a inoperativeness of the telephone line recited in the Abstract).

Regarding claim 33, a wireless protection system comprising a wireless link processor (see cellular backup system recited in the Abstract) for connecting said user site and said provider network site over a backup connection (see cellular system

transmitting call to a central alarm station recited in the Abstract); and transmitting user traffic between said user site and said network provider site over a backup connection carried over a wireless link (see cellular system recited in the Abstract) when the primary access connection is suffering from performance impairment (see switching the telephone line over the cellular system upon a inoperativeness of the telephone line recited in the Abstract).

Regarding claim 37, a wireless protection system comprising a wireless link processor (see cellular backup system recited in the Abstract) for connecting said user site and said provider network site over a backup connection (see cellular system transmitting call to a central alarm station recited in the Abstract); and transmitting user traffic between said user site and said network provider site over a backup connection carried over a wireless link (see cellular system recited in the Abstract) when the primary access connection is suffering from performance impairment (see switching the telephone line over the cellular system upon a inoperativeness of the telephone line recited in the Abstract); the wireless link is used for backup purpose (see cellular backup system recited in the Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li by using the features, as taught by Dop, in order to make the system more reliable by providing different alternative connections, implement the system easier, and keep it work in almost any topology.

Li and Dop disclosed the claimed limitations above. They do not disclose the following features: regarding claim 13, wherein a user may configure threshold levels of

link performance parameters that trigger generation of said fault signal; degraded performance may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter; regarding claim 33, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; regarding claim 37, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; regarding claim 49, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter; regarding claim 50, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Soltysiak discloses methods and apparatus for burst tolerant excessive bit error rate alarm detection and clearing comprising the following features.

Regarding claim 13, wherein a user may configure threshold levels of link performance parameters (see user configures BER thresholds recited in [0011]) that trigger generation of a fault signal (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract); degraded performance may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 33, wherein a user may configure threshold levels of link performance parameters (see user configures BER thresholds recited in [0011]) that trigger generation of a fault signal (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 37, wherein a user may configure threshold levels of link performance parameters (see user configures BER thresholds recited in [0011]) that trigger generation of a fault signal (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 49, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 50, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li and Dop, by using the features, as taught by Soltysiak, in order to give user more options to control the system.

11. Claims 14, 40, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626; hereinafter Li) in view of Hrastar et al. (US 2001/0043562) and further in view of Soltysiak et al. (US 2003/0021234).

Li discloses a system and method for failure recovery of high-speed modems (see the Title) comprising the following features.

Regarding claim 14, a method for protecting a wireline access link (see the Title), comprising the steps of: transmitting user traffic between a user site and a network provider site in a broadband access connection carried over said wireline link (see Internet access on high-speed modem recited in the Abstract); transmitting user traffic between said user site and said network provider site over a backup connection (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30) when said broadband access connection is suffering from performance impairment (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3); monitoring integrity of said wireline link (see "The modem interchange software detects" recited in para. [0033] on page 3) and generating a fault signal upon detection of said performance impairment of said broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3); switching said user traffic from said broadband access connection to a backup connection according to said fault signal (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30); switching back said user traffic from said backup connection to said broadband access connection (para. [0035], [0090] Fig. 14, see steps 380

through 405 for restoring the high-speed connection) once said fault signal has been cleared (para. [0035], [0090], see detecting if the high-speed modem resumes to normal operation); switching back said user traffic from said backup connection on said broadband access connection (para. [0035], [0090] Fig. 14, see steps 380 through 405 for restoring the high-speed connection) and determining whether said fault signal has been cleared (para. [0035], [0090], see detecting if the high-speed modem resumes to normal operation).

Regarding claim 40, wherein said step d) comprises transmitting test data over said wireline link (see "detects that change and communicates that status" recited in para. [0090], page 7) to determine recovery of said broadband access connection (see "high-speed modem resumes" recited in para. [0090], page 7).

Li discloses the claimed limitations above. Li does not disclose the following features: regarding claim 14, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; switching back said user traffic from said backup link on said wireline link at specific intervals; regarding claim 47, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Hrastar discloses a method of using routing protocols to reroute packets during a link failure (see the Title) comprising the following features:

Regarding claim 14, switching back said user traffic from said backup link on said wireline link at specific intervals (see "predetermined period of time" recited in para. [0024], page 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li by using the features, as taught by Hrastar, in order to restore the system faster and more reliable.

Li and Hrastar disclosed the claimed limitations above. They do not disclose the following features: regarding claim 14, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; regarding claim 47, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Soltysiak discloses methods and apparatus for burst tolerant excessive bit error rate alarm detection and clearing comprising the following features.

Regarding claim 14, wherein a user may configure threshold levels of link performance parameters (see user configures BER thresholds recited in [0011]) that trigger generation of a fault signal (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 47, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li and Hrastar, by using the features, as taught by Soltysiak, in order to give user more options to control the system.

12. Claims 16, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Antoniou et al. (US 6,965,775).

Li, Dop, and Sottysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 16, comprising filtering said user traffic on receipt of said fault signal for selecting high-priority traffic to be carried over said backup connection; regarding claim 20, further comprising filtering said user traffic at the network provider on receipt of said fault signal for selecting high-priority traffic to be carried to said user site over said backup connection; regarding claim 22, further comprising: filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic, the high-priority traffic to be transmitted over said backup connection; and filtering said user traffic at said network provider site on receipt of said fault signal for selecting high-priority traffic to be carried to said user site over said backup connection.

Antoniou discloses service-oriented protection scheme for a radio access network (see the Title) comprising the following features.

Regarding claim 16, comprising filtering said user traffic on receipt of said fault signal for selecting high-priority traffic to be carried over said backup connection (see

protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7).

Regarding claim 20, further comprising filtering said user traffic at the network provider on receipt of said fault signal for selecting high-priority traffic to be carried to said user site over said backup connection (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7).

Regarding claim 22, further comprising: filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic, the high-priority traffic to be transmitted over said backup connection (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7); and filtering said user traffic at said network provider site on receipt of said fault signal for selecting high-priority traffic to be carried to said user site over said backup connection (see protection path is configured with quality of service recited in col. 2, lines 38-47; and see Table 1 on page 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Antoniou, in order to provide more functionalities for system such as quality of service.

13. Claims 17, 38-39, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Gupta et al. (US 2002/0075868) further in view of Soltysiak et al. (US 2003/0021234).

Li discloses a system and method for failure recovery of high-speed modems (see the Title) comprising the following features.

Regarding claim 17, a method for protecting a wireline access link (see the Title), comprising the steps of: transmitting user traffic between a user site and a network provider site in a broadband access connection carried over said wireline link (see Internet access on high-speed modem recited in the Abstract); transmitting user traffic between said user site and said network provider site over a backup connection (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30) when said broadband access connection is suffering from performance impairment (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" recited in para. [0033] on page 3); monitoring integrity of said wireline link (see "The modem interchange software detects" recited in para. [0033] on page 3) and generating a fault signal upon detection of said performance impairment of said broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3); and switching said user traffic from said broadband access connection to a backup connection according to said fault signal (see "switch from the high-speed modem to a dial-up modem" recited in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30); adapting the bandwidth of said wireline link to the bandwidth of the backup link (see "switch from the high-speed modem to a dial-up modem" recited

in para. [0033], page 3; and how "the data redirection software module" redirects all data recited in [0034], page 30).

Regarding claim 38, further comprising maintaining said wireline link unavailable when traffic is switched over the dial-up link (see once switching to dial-up link, all the traffic is redirected through dial-up modem while the high-speed link is unavailable recited in para. [0089], page 7).

Regarding claim 39, further comprising maintaining dial-up link unavailable when traffic is switched over said wireline link (see once the high-speed modem resumes, the dial-up connection is shut down while the high-speed connection is reestablished recited in para. [0090] and Fig. 14).

Li discloses the claimed limitations above. Li does not disclose the following features: regarding claim 17, wireless link; wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; adapting the bandwidth of said wireline link to the bandwidth of said wireless link by discarding low priority data from said user traffic; regarding claim 37, further comprising maintaining said wireless link available only on request; regarding claim 38; further comprising maintaining said wireline link unavailable when traffic is switched over said wireless link; regarding claim 39, further comprising maintaining said wireless line link unavailable when traffic is switched over said wireline link; regarding claim 48, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Gupta discloses a network node with multi-medium interfaces (see the Title) comprising the following features.

Regarding claim 17, wherein the backup connection is a wireless link (see "wireless link as a backup link" recited in para. [0043], page 4) and adapting the bandwidth of said wireline link to the bandwidth of said wireless link (see multiple interface enables to switch links between fiber optic and wireless links recited in para. [0041], page 3 and [0043], page 4) by discarding low priority data from said user traffic (see dropping low priority data packets recited in para. [0086], pages 9-10).

Regarding claim 38, wherein said backup connection is a wireless link (see "wireless link as a backup link" recited in para. [0043], page 4).

Regarding claim 39, wherein said backup connection is a wireless link (see "wireless link as a backup link" recited in para. [0043], page 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li by using the features, as taught by Gupta, in order to make the system more reliable by providing different alternative connections, implement the system easier, keep it work in almost any topology, and satisfy quality of service.

Li and Gupta disclosed the claimed limitations above. The do not disclose the following features: regarding claim 17, wherein a user may configure threshold levels of link performance parameters that trigger generation of said fault signal; regarding claim 48, said performance impairment may be any impairment selected from the group

consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter.

Soltysiak discloses methods and apparatus for burst tolerant excessive bit error rate alarm detection and clearing comprising the following features.

Regarding claim 17, wherein a user may configure threshold levels of link performance parameters (see user configures BER thresholds recited in [0011]) that trigger generation of a fault signal (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

Regarding claim 48, said performance impairment may be any impairment selected from the group consisting of inadequate throughput, excessive bit error rate, excessive packet loss, excessive latency, and excessive jitter (see an alarm state is entered if an error count exceeds a threshold recited in the Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li and Gupta, by using the features, as taught by Soltysiak, in order to give user more options to control the system.

14. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Gupta et al. (US 2002/0075868) and further in view of Soltysiak et al. (US 2003/0021234) and Simons et al. (US 7,023,845).

Li, Gupta, and Soltysiak disclose the claimed limitations in paragraph above.

In addition, Gupta also discloses the following features:

Regarding claim 19, wherein said step of filtering comprises adapting the bandwidth of said wireline link to the bandwidth of said wireless link (see multiple

interface is configured to transfer data using fiber optic and wireless links recited in para. [0041], page 3) by discarding low priority data from said user traffic (see dropping low priority data packets recited in para. [0086], pages 9-10).

Li and Gupta do not disclose the following features: regarding claim 19, wherein said step of filtering comprises adapting the bandwidth of said wireline link to the bandwidth of said wireless link by buffering low priority data from said user traffic.

Simons discloses a network device including multiple mid-planes (see the Title) comprising the following features.

Regarding claim 19, wherein said step of filtering comprises buffering low priority data from said user traffic (see "buffer lower priority traffic" recited in col. 49, lines 41-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Gupta, and Soltysiak by using the features, as taught by Simons, in order to prevent or reduce congestion.

15. Claims 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Gupta et al. (US 2002/0075868).

Li, Dop, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 21, wherein said step of filtering comprises one of discarding and buffering low priority data from said user traffic.

Gupta discloses a network node with multi-medium interfaces (see the Title) comprising the following features.

Regarding claim 21, wherein said step of filtering comprises one of discarding and buffering low priority data from said user traffic see dropping low priority data packets recited in para. [0086], pages 9-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Gupta, in order to make the system more reliable by providing different alternative connections, implement the system easier, keep it work in almost any topology, and provide more functionalities for the system such as quality of service.

16. Claims 23, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Simmons (US Patent No. 6,597,658).

Li, Dop, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 23, wherein said fault signal indicates an overload condition of said wireline link; regarding claim 25, further comprising filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic, the overload traffic to be carried over said backup connection; regarding claim 27, further comprising, at said network provider site: filtering said user traffic on receipt of said fault signal for selecting said overload traffic; and routing said overload traffic to said user site over said backup connection.

Simmons discloses a method and system of dynamic traffic control in a communication network (see the Title) comprising the following features.

Regarding claim 23, wherein said fault signal indicates an overload of said wireline link (see "overload condition" recited in col. 3, lines 47-50).

Regarding claim 25, further comprising filtering said user traffic at said user site on receipt of said fault signal for selecting from said user traffic, the overload traffic to be carried over said backup connection (see routing overload traffic into protection links recited in col. 3, lines 29-44).

Regarding claim 27, further comprising, at said network provider site: filtering said user traffic on receipt of said fault signal for selecting said overload traffic; and routing said overload traffic to said user site over said backup connection (see routing overload traffic into protection links recited in col. 3, lines 29-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Simmons, in order to prevent or reduce congestion.

17. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234), Antoniou et al. (US 6,965,775) and Simmons (US 6,597,658).

Li, Dop, Soltysiak, and Antoniou disclose the claimed limitations in above. They do not disclose the following features: regarding claim 24, wherein an overload condition is recognized based on a measured throughput near wireline link capacity.

Simmons discloses a method and system of dynamic traffic control in a communication network (see the Title) comprising the following features.

Regarding claim 24, wherein an overload condition (see "overload condition" recited in col. 3, lines 49-50) is recognized based on a measured throughput near wireline link capacity (see "excess capacity" recited in col. 3, lines 34-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Soltysiak, and Antoniou by using the features, as taught by Simmons, in order to manage the system better such as preventing or reducing congestion.

18. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234), Simmons (US 6,597,658), and Gerszberg et al. (US 6,714,534).

Li, Dop, Soltysiak, and Simmons disclose the claimed limitations 16 above. They do not disclose the following features: regarding claim 26, merging said overload traffic back into said user traffic at said network provider site.

Gerszberg discloses a system architecture for bypassing a local exchange carrier (see the Abstract) comprising the following features.

Regarding claim 26, merging said overload traffic back into said user traffic at said network provider site (see "aggregate" recited in col. 14, lines 27-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Soltysiak, and Simmons by using the features, as taught by Gerzberg, in order to restore the traffic and reassembly packets or frames.

19. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Sternagle (US 2002/0184376).

Li, Dop, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 28, wherein said fault signal is generated based on signaling of link configuration or availability using the 802.3ad Ethernet link aggregation protocol.

Sternagle discloses scalable, reliable session initiation protocol signaling routing node (see the Abstract) comprising the following features.

Regarding claim 28, wherein said fault signal is generated based on signaling of link configuration or availability using the 802.3ad Ethernet link aggregation protocol (see IEEE 802.3ad implemented to make automatic failover recited in para. [0056], page 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Sternagle, in order to make automatic failover possible (Sternagle: para. [0056], page 5).

20. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Cioffi (US 2005/0152385).

Li, Dop, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 29, wherein said step c) is based on

signaling of link configuration or availability within the IETF RFC 1717/RFC 1990 Multi-link Point to Point protocol.

Cioffi discloses a high speed multiple loop DSL system (see the Title) comprising the following features.

Regarding claim 29, wherein said step c) is based on signaling of link configuration or availability within the RFC 1990 Multi-link Point to Point protocol (see "Multilink PPP" recited in para. [0040], page 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Cioffi, in order to provide increased bandwidth and redundancy in the event of line failures (Cioffi: para. [0040], page 3).

21. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Johnson et al. (US 6,147,966).

Li, Dop, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 30, wherein said fault signal is generated based on detection of absence of a signal within a time-out interval, or a failure to respond to an active health test condition.

Johnson discloses route routing in communications networks comprising the following features:

Regarding claim 30, wherein said fault signal is generated based on detection of absence of a signal within a time-out interval, or a failure to respond to an active health

test condition (see "the absence of any received forward route-finder signatures" recited in col. 4 lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Johnson, in order to detect a fault in the system.

22. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Smyth et al. (US Patent No. 6,598,229).

Li, Dop, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 34, wherein said link performance parameters include available bandwidth on the wireline link.

Smyth discloses a system and method for detecting and correcting a defective transmission channel (see the Title) comprising the following features:

Regarding claim 34, wherein said link performance parameters include available bandwidth on the wireline link (see faulty signal generated when there is no available bandwidth recited in col. 12, lines 48-58).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, and Soltysiak by using the features, as taught by Smyth, in order to provide a system and method for detecting and correcting a defective transmission channel in an interactive distribution system (Smyth: col. 2, lines 13-16).

23. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Hrastar et al. (US 2001/0043562) and further in view of Soltysiak et al. (US 2003/0021234) and Koyanagi et al. (US 2006/0168336).

Li, Hrastar, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 41, wherein said test data comprises one of low-priority user traffic and test probes.

Koyanagi discloses re-challenge communication control method and system (see the Title) comprising the following features:

Regarding claim 41, wherein said test data comprises one of low-priority user traffic and test probes (see "priority is lower" recited in para. [0019], page 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Hrastar, and Soltysiak by using the features, as taught by Koyanagi, in order to simplify the test of recovery of broadband connection.

24. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Hrastar et al. (US 2001/0043562) and further in view of Soltysiak et al. (US 2003/0021234) and Higginson et al. (US 5,610,951).

Li, Hrastar, and Soltysiak disclose the claimed limitations above. They do not disclose the following features: regarding claim 43, wherein said time intervals increase progressively to reduce the impact of testing on traffic performance.

Higginson discloses efficient ATM cell synchronization (see the Title) comprising the following features:

Regarding claim 43, wherein said time intervals increase progressively to reduce the impact of testing on traffic performance (see "increasing the test period length" recited in col. 3, lines 10-11).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Hrastar, and Soltysiak by using the features, as taught by Higginson, in order to reduce the traffic.

25. Claims 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US 2004/0078626) in view of Dop et al. (US 5,185,779) and further in view of Soltysiak et al. (US 2003/0021234) and Antoniou et al. (US 6,965,775) and Notani (US 2003/0028093).

Li, Dop, Soltysiak, and Antoniou disclose the claimed limitations above. They do not disclose the following features: regarding claim 44, wherein said high priority traffic is selected by means of policing or shaping low priority traffic at said user site when traffic presented exceeds the available upstream link capacity; regarding claim 45, wherein said high priority traffic is selected by means of policing or shaping low priority traffic at said network provider site when traffic presented exceeds the available upstream link capacity.

Notani discloses (see the Title) comprising the following features:

Regarding claim 44, wherein said high priority traffic is selected by means of policing or shaping low priority traffic at said user site (see "shaping function" recited in para. [0136], page 8) when traffic presented exceeds the available upstream link capacity (see "exceeds" recited in para. [0231], page 14).

Regarding claim 45, wherein said high priority traffic is selected by means of policing or shaping low priority traffic at said network provider site (see "shaping function" recited in para. [0136], page 8) when traffic presented exceeds the available upstream link capacity (see "exceeds" recited in para. [0231], page 14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li, Dop, Soltysiak, and Antoniou by using the features, as taught by Natani, in order to provide a transmission apparatus able to greatly reduce the capital costs and running costs of an optical network for transmitting IP signals (Natani: para. [0010] page 1).

Response to Arguments

26. Applicant's arguments filed March 28, 2008 about 35 USC 112, 1st paragraph rejection of claim 17 (see Applicant's remarks page 16) have been fully considered but they are not persuasive. On the cited remarks, the Applicants argue that limitation "adapting the bandwidth of said wireline link to the bandwidth of said wireless link by discarding low priority data from said user traffic" have been supported in paragraph [0040] by the description dropping "low priority packets". In response to Applicant's arguments, the examiner respectfully disagrees with the arguments above. In paragraph [0040], low priority packets are dropped when traffic upstream to the network exceeds the link capacity. There is no where in [0040] disclosing "adapting the bandwidth of said wireline link to the bandwidth of said wireless link by discarding low priority data from said user traffic".

27. Applicant's arguments filed March 28, 2008 with respect to rejection of claims 1-17, 19-30, 33-34, 36-41, and 43-50 have been considered but are moot in view of the new ground(s) of rejection.

28. Applicant's arguments filed March 28, 2008 about 35 USC 103 rejection of claim 1 (Applicant's remarks page 18) have been fully considered but they are not persuasive. On the cited remarks, the Applicants argue that the reference of Li does not teach "detection of performance impairment". Examiner has reviewed the reference and the claim with care and respectfully disagrees with the Applicant's remarks. Li discloses means for monitoring operation of said wireline link (see "The modem interchange software detects" recited in para. [0033] on page 3) and generating a fault signal upon detection of a said performance impairment of the broadband access connection (Fig. 5, detecting high-speed modem failure in step 90; and see "detects the high-speed modem failure" and "communicates the failure to the modem backup software module" recited in para. [0033] on page 3).

Conclusion

29. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Q. Tran whose telephone number is (571) 272-9737. The examiner can normally be reached on Mon-Fri: 7:30 am - 5 pm, off alternative Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. Q. T./

Examiner, Art Unit 2616

/Kwang B. Yao/

Supervisory Patent Examiner, Art Unit 2616